MATHS

Lesson 31

Prep

Topic: Patterns and algebra

Exploring patterns in the environment 1

Lesson concepts

- **Patterns** — Pattern/non pattern
- **Patterns** — Continuing patterns
- **Patterns** — Describing patterns

Today students will:

- identify patterns in the environment
- create sensory patterns.

Resources

Find and prepare

Sheet — Guided Inquiry poster

Sheet — Let's play! Sing it

Sheet — Sound and rhyme play

Key terms

pattern, same, describe, copy, non-pattern, same, different, arrangement, inquiry, question, continue, create

For definitions and explanations of terms, please see the Glossary.

Lesson

Introduce the lesson

Say to students

"In the next lessons, you will complete a Mathematical Guided Inquiry. A Mathematical Guided Inquiry is a journey in which you find your own answer to a question. The question you will answer is **'How can you show a pattern?'**"

Note

The first phase of an MGI is the 'Discovery' phase' in which students:

- discover what the question means
- suggest what the answer to the question might be
- explore the type of 'evidence' they may need to form their answer to the question.

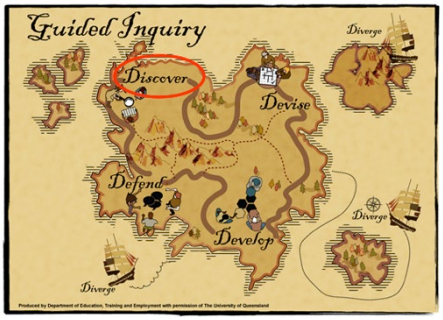
Throughout the MGI, it may be helpful to:

- frequently model questioning
- explicitly identify questions as they arise
- record questions
- prompt students to identify or predict what might be a suitable answer
- refer to these questions during reflection.

Explore patterns in the environment (Discover)

Discuss the meaning of the question

Display the **Sheet —** Guided Inquiry poster and explain that a Mathematical Guided Inquiry is a journey (trace the journey line on the poster) that students will make, and that they will start at the 'Discovery' phase (point to the word 'Discover' on the poster).



Talk about the inquiry and discuss:

- what students think the question means
- what they know about patterns
- that patterns are all around them
- that patterns are not just things they see.

Discuss students' understanding of patterns.

Encourage students to generate their own questions about patterns.

Focus questions

Q: *What is a pattern?*

Q: *How can you find a pattern?*

Q: *What types of patterns can you see?*

Q: *What other types of patterns are there?*

Q: *What patterns do you follow?*

A: For example, I get up in the morning, eat breakfast, get dressed and come to school.

Q: *How could you write or draw that pattern?*

Q: *Why do you think that there are patterns in the world?*

Note

Students may initially focus on visual patterns and require prompting to identify other familiar patterns such as routines, music and movements.

In this picture, I think there are two patterns:

1. The stripes on the boy's jumper are going downwards green, brown, green, brown.
2. The bubbles are getting bigger and bigger.

Explore sound patterns

Support students to listen to and copy sound patterns by:

- echoing rhythms and phrases of songs (for example, ‘Five currant buns’ on the **Sheet — Let’s play! Sing it**, ‘Three blind mice’ or ‘Twinkle, twinkle little star’)
- copying and sequencing sound patterns such as animal calls (me-ow, oink-oink, bow-wow) from the song ‘Old MacDonald had a farm’
- creating phrases with initial sounds repeated (for example, ‘Peter Piper’, ‘big black bird’)

Note

The **Sheet — Sound and rhyme play** provides examples of word games that focus on initial sounds and rhymes.

- creating increasing chains of sound patterns (such as ta, ta, te-te, ta, then ta, ta, ta, te-te, ta).

Focus questions

Q: *What pattern can you hear?*
Q: *How could you describe the repeated part?*
Q: *What might come next?*
Q: *How could you make a pattern using the ‘k’ sound?*